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MULTIGRAPH PRESS

**Instructions for
Operating the
No. 59, No. 60
and No. 61**



**PRINT MUSEUM
South Coast
Restoration Society
Gold Coast
QUEENSLAND**

Ten Rules for Matching

1. When using a new Multigraph ribbon, adjust the platen impression on the Multigraph to correspond with the impression of the typewriter to be used in "filling-in."

2. Do not increase the platen pressure until the copy becomes too light to be used—or, in other words, increase the platen pressure only to maintain a uniform color throughout the run.

3. First strike off a sample of the typewriting and make the Multigraph impression to match.

4. Always "fill-in" your letters a little lighter in color than the body, if the Multigraphing is dry and the ink has "set." If the Multigraphed letter is freshly run, match to the same color.

5. In "filling-in" be sure that you have the same amount of color in the "fill-in" as in the body. To test this, hold the letter up to the light and look at it from the back.

6. The use of proper paper is important. A medium bond paper will give the best results. Twenty-pound bond, basis of 17x22, is recommended.

7. In using the typewriter ribbon see that the ribbon movement is properly shifting.

8. Ribbons intended to match Multigraph impressions should be reserved for that purpose alone.

9. To maintain the maximum capacity of each ribbon, regulate the platen impression on the Multigraph to a nicety. Too much impression at the start will absorb a great deal of the life and durability of the ribbon.

10. We furnish typewriter ribbons in three grades of inking—heavy, medium and light. This enables the user to suit his own taste in depth and color of his work.



PLATE No. 1



PLATE No. 3

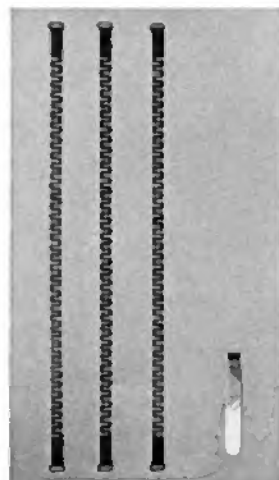


PLATE No. 4

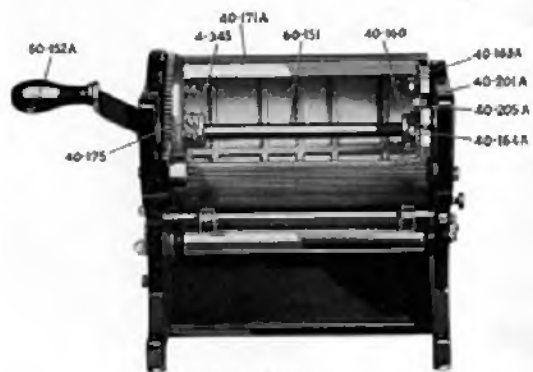


PLATE No. 5



PLATE No. 6

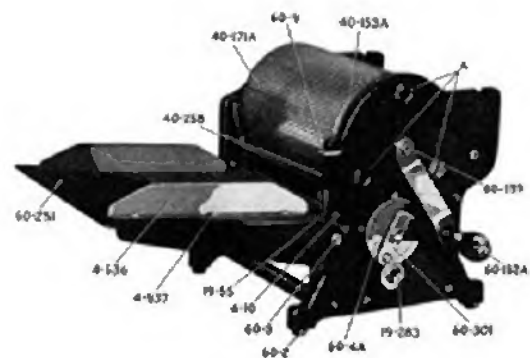


PLATE No. 7

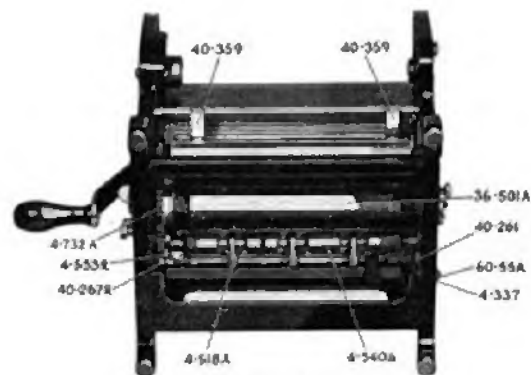


PLATE No. 8

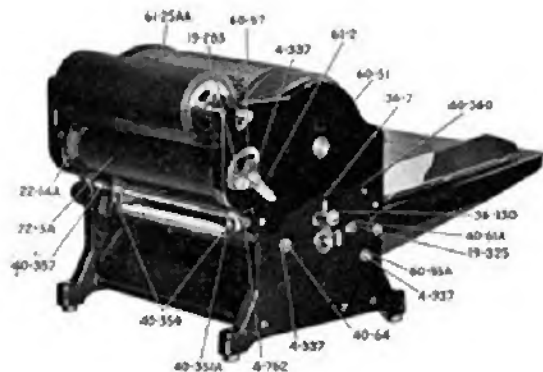


PLATE No. 9

Instructions for Operating the No. 59, No. 60 and No. 61



The American Multigraph Sales Company
East 40th Street and Kelley Avenue
Cleveland, Ohio

Instructions for Operating the No. 59, No. 60 and No. 61

See Form Sa 636 For Instructions
For Assembling 68 Stand. This
Form is Packed With Each 68 Stand.

Assembling Instructions for Model No. 59

1. After removing the frame and banks from cartons, remove the type retainers at the top of the banks by unhooking the springs, and the retainers at the bottom by loosening the two screws which hold the character board in position and then slide the retainer out to either side of the banks. Then tighten screws which hold the character board.
2. Note that each bank has a different colored character board fastened at the bottom. A character board having the same color will be found fastened to the top of the frame.
3. Slide the banks in the slots so that the character board at the top of the frame will correspond with the character board fastened to the bottom of the bank.
4. Make sure that the characters which are stamped on the top character boards align with the proper channels of the type banks. If they do not, the top character boards can be shifted from side to side by loosening three screws which hold the cap for frame. You can now move the character boards from side to side until the proper alignment of the characters on the character board and the proper channels of the bank is secured.

MODEL No. 60

5. When Model No. 60 is shipped it is necessary to remove the crank for packing purposes.
6. To assemble the crank to the machine, remove the hex. head screw 60-159, plate 7, then turn the drum so that the open part is down. Now attach the crank so that it is pointing straight down. Replace the screw and lock it securely.

Attaching No. 59 and No. 60 to the Wooden Sub-base

7. If you are using the wooden sub-base and stand in connection with Models No. 59 and No. 60, place the wooden sub-base on the stand so that the projecting part of the wood sub-base projects over the left end of the stand.
8. In order to determine the left and right ends of the stand, the front end of the stand is that portion with only one tie bar at the top and none at the bottom. Stand facing the front of the stand and the Model No. 60 or printing machine will be placed at your right and Model No. 59, the typesetting machine will be placed at the left.
9. In order to attach Model No. 60 to the wooden sub-base and the stand, remove the four rubber feet, 60-2, plate 7, and use the two holes in the right end feet of this machine for fastening. The screws will be placed in these two holes through the holes in the wooden sub-base and screwed into the right end legs of the stand. Use the special screws supplied for this purpose.

10. Model No. 59 or typesetter can be fastened to the wooden sub-base by inserting the screws supplied for this purpose through the two holes which will be found on the inside of the front portion of the typesetter. Then lock the screws with the two nuts supplied.

Attaching No. 59 and No. 60 to No. 68 Stand

- 10a. Be sure to remove banks which hold type from the frame of the typesetter. There are four holes punched in the top of the shelf so that the typesetter can be attached, either facing towards the front part of the stand or towards the side as the occasion may require. If the typesetter is to face the front of the stand, place one of the screws 68-10 which is $\frac{3}{4}$ " long, through the hole which will be found on the inside of the front base and at the extreme left of the typesetter. The other screw 68-10 should be inserted through the hole which will be found on the inside of the back of the typesetter at the right. If the typesetter is to face toward the side, the other set of holes in the shelf should be used. Lock screws with two nuts, 68-8.
- 10b. To attach Model No. 60 to the stand, remove the rubber feet from No. 60 and attach with the four round head screws 68-7 which are $1\frac{1}{4}$ " long, and lock with nuts 68-8.

Placing Copy In Copy Holder

11. In order to place the copy in the copy holder, double the sheet (do not fold), so that the lower half of it is about one-half inch longer than the top. Insert the bottom edge of the sheet in the bottom slot and the top edge in

the top slot and then pull both edges toward the top of the typesetter. Now pull the bottom edge of the sheet until the first line which is to be set shows in the opening of the copy holder. See plate 1.

Composing or Setting Type

12. When setting or composing type, use the composition fork which is shown in plate 1. Hold the composing fork in the right hand with the thumb on the thumb rest and the four fingers supporting the fork at the bottom. Close the lower end of the fork by turning the clip located at the distribution end of fork to prevent the type from passing through while composing.

Indentation of Paragraphs

13. If you desire to indent the paragraphs, that is, to set in the first line, use quads to do this. A quad is a type body without a character cast on it. There are ten Pica type and twelve Elite type to an inch. Therefore, if the letter is being set in Pica type and you wish to indent the first line of the paragraph one-half inch, you would use five Pica quads to do it, if Elite, six quads.
14. Type is set in exactly the rotation or order in which it is read. Locate the character which is to be first composd and place the composing fork in the position as shown in plate 1, that is, have the two prongs of the fork straddling the small projection just below the type which you are going to set and then just push the fork toward the type until the character which you wish to compose raises up and drops down into the fork.

15. Example. If you desire to set the word "The", locate the capital letter "T" and set it in the fork. Then set the letter "h", etc.

Spacing of Words

16. As there is a space between each word, it will be necessary to place a quad or space between the words when setting type.

Length of Lines

17. Never compose a line of type more than 7¼ inches in length. (This is maximum width). The composing fork is marked with small lines one inch apart to aid you in setting the proper length lines. This also helps you in setting forms which are tabulated or in columns.

Proper Location of Form on Drum

18. When the first line of type is completely set on the fork it is necessary to find the correct position in which to place it on the drum of the Multigraph. There are two positions which must be determined before the type is placed on the drum. First, the horizontal position and, second, the vertical position.

Horizontal Position

19. Small lines are scored around the drum, 40-171A, plate 7, one-half inch apart to enable the operator to determine the horizontal position. If the type matter is to start one-half inch from the edge of the paper, the type matter should be set so that it starts at the first line at the right end of the drum. If a one-inch margin is desired, then the type should be started at the second line from the right of the drum. When the margin line

has been determined, place the marginal band, 40-501A, plate 4, around the drum.

Putting Marginal Band on Drum

20. Use the marginal band tool, 6-24, plate 4, to do this. Place the hook end of the tool in the small loop at the end of the band. Then hook the other end of the band over the outside edge of the top rail, being sure that the marginal band is to the right of the proper scored mark which was determined as the marginal line, then turn the drum and use the tool as a lever at the other end of the drum to stretch the band until it snaps over the bottom rail.

Vertical Position

21. The vertical position determines the distance that the form will be printed from the bottom of the paper.
22. The cam band, 40-153A, plate 7, must be properly located in relation to the channels of the drum. The proper relation of the cam band to the drum is when the figure "O" which is stamped on the cam band, is directly in line with the bottom channel of the drum.

Locking Drum

23. In order to lock the drum so that it will stay in a stationary position, push the little lever, 60-9, plate 7, so that the point of the lever is inserted between two of the teeth in the large gear which is located at the right end of the drum. To unlock the drum, force the lever so that its end is pulled out from between the teeth of the gear.

Setting Cam Band

24. Turn the crank, 60-152A, plate 7, until it points straight down, then lock the drum. See paragraph 23. Look through the three small holes marked "A", plate 7, and a screw in each hole can be seen. Loosen these three screws with a screw driver and turn the drum until the bottom channel of the drum is opposite the figure "O" on the cam band. Then tighten the three screws.

Locating Proper Channel for Type

25. Measure the distance from the bottom of the paper to the point where you desire the first line which you have set, to print. Let us suppose that this distance is eight inches. Locate the figure "8" on the cam band and then set the first line of type in the channel of the drum which is directly opposite this figure "8". This line of type will then print eight inches from the bottom of the paper when the paper is fed properly into the machine.

Transferring Type From Fork to Drum

26. Insert the two square prongs of the composing fork into the two channels, one above and one below the channel in which the type is going to be set. Open fork by turning clip of the composition fork and push the type into the drum by using the little fibre type stick which is supplied with your equipment. Use this fibre type tool so that your type will not be scratched or marred. Continue these operations until the entire paragraph is set.

Spacing

27. If single spacing between the lines is desired then the type should be set in every channel.

If double spacing is desired, then set type in every other channel, etc.

Paragraphing

28. As a general rule, two channels are left between paragraphs and the indentation of paragraphs is generally one-half inch. Of course this depends entirely upon the operator.

Putting On Ribbon

29. After the complete letter is set up, put on ribbon. Ribbons are supplied wound on a spool. An extra spool is supplied as part of the machine equipment. In order to attach the spool to the ribbon, simply place the steel clip which is fastened to the end of the ribbon into the slot of the spool.

The ribbon must wind from over the top of the spool as shown in plate 6.

Place the hole in the end of the ribbon spool over the right pin bearing, 4-345, plate 5, force in this pin until the opposite end of the spool can be placed over the opposite bearing, 40-160.

The little projection which is attached to the ratchet wheel, 40-163A, 40-164A, at the left end must engage in the square hole located in the end of the ribbon spool.

After placing the first spool on which the ribbon is wound, in position, revolve the drum so that the ribbon passes around the drum and over the type, see plate 6. If the ribbon does not move freely, see paragraph 30. Now place the other spool in position on the other set of bearings, being sure that the ribbon is winding over the top of the spool because if it does not there will be a binding effect.

Reversing Ribbon

30. THE RIBBON WILL AUTOMATICALLY WIND FROM ONE SPOOL TO ANOTHER BUT AT THE END OF THE RIBBON IT IS NECESSARY TO REVERSE IT BY HAND.

In order to reverse the ribbon, that is to make the ribbon wind on the opposite spool, throw the small lever, 40-205A, plate 5, over to the opposite side. The position of this lever is away from the spool on which the ribbon is going to be wound.

Attaching Paper Table

31. In order to place the paper table, 60-251, plate 7, in position, place the hooked ends over the two screws, 60-3, and force the paper table down as far as it will go.

Paper Guides

32. The two paper guides, 4-536, are attached to the table with thumb screws and nuts. These guides can be used to obtain different margins on paper. The flange of the paper guide must be toward the outside of the table. The right guide should be placed as far to the right of the table as possible and if a narrower margin is desired, move this guide in toward the center of the table until the correct margin is secured.

If the left guide is used it should not be adjusted until after the exact location of the right guide has been determined. Then place a piece of paper the width you are feeding against the right guide and adjust the left guide to this width.

Platen Adjustments

33. When the lever, 60-301, plate 7, is in the lower hole of the adjustable washer, no impression will be obtained when the paper is fed through the machine. When impression is desired, raise the lever into the top hole of the adjustable washer.

Making Printing Heavier or Lighter

34. If the platen lever is in the upper hole and a darker or heavier impression is desired, loosen the thumb screw, 19-283, plate 7, and raise the lever just a trifle. Then lock thumb screw.

Leveling Platen

35. If the impression is heavy on one side and gradually decreases in the depth of color toward the other side, this can be adjusted by loosening the screw, 36-130, plate 9. If the machine prints light on the left side, move the sector, 36-7, plate 9, toward the word "raise". If heavy, move it in the opposite direction toward the word "lower."

Removing Platen

36. Tilt the machine back as shown in plate 8 and turn the lever, 60-301, plate 7, to the rear of the machine, slightly pulling on the lever until the shaft can be withdrawn. Platen gear, driving disc, and platen can then be removed from the machine.

Replacing Platen in Machine

37. Assemble the platen, 36-501A, plate 8, driving disc and platen gear. Put this assembled platen in the machine, insert the platen shaft through the right plate, gear, driving disc and platen and then into the bearing at the

left end of the machine. Now note the small pin which projects from the right end of the platen shaft and turn the lever until this small pin enters the slot in the washer, 60-4A, plate No. 7. Now force the platen shaft in solidly and turn the lever while forcing the platen shaft until the small ball which is in the end of the lever, 60-301, falls into the hole in the disc.

Direction To Rotate Drum

38. Have the crank pointing straight down. Now revolve the crank toward the back of the machine and continue in this direction. This is the proper rotation of the drum for feeding paper.

Feeding Paper

39. In order to feed the paper properly it is necessary to fan the stack of paper which is placed on the paper table, 60-251, plate 7, so that each sheet is a trifle closer to the feeding mechanism than the one below it.

Turn the handle until it points straight down. If your cam band is set properly as explained in paragraph 24, the high part of the cam band will be in contact with the small roller, 40-258 and this is the point at which the paper should be fed.

Place the right hand on the crank and the left hand on the paper so that palm of the left hand is resting on the fanned edges and then with the index finger or middle finger force the top sheet of paper into the machine until it comes to a stop. Now with the right hand turn the drum one complete revolution and stop when the crank is pointing straight down. After a little practice it will not be

necessary to stop each revolution as you will be able to feed the paper in at this point without it.

Changing Location of Form on Paper

40. If for any reason it is desired to change the position of the form on the paper a little bit, follow the directions paragraph 24. To make the form print higher on the paper after the three screws have been loosened as mentioned in paragraph 24 and the gear locked in position as explained in paragraph 23, move the drum opposite to the direction in which it rotates. To make the form print closer to the bottom of the paper, move the drum in the direction in which it rotates. Be sure to tighten the three screws before taking another print or moving the drum.

Maximum Size of Paper Which Can be Fed

41. The largest sheet of paper which can be fed through the Multigraph is 9" wide by 15" long.

Maximum Size of Form

42. The largest form which can be printed on the No. 60 Multigraph is 8" wide by 13½" long.

Taking Proof

43. The machine is equipped with paper strips, No. 40-359, plate 8, so be sure to slide them far enough to either side so that they will not come in contact with the type form when the drum is revolved. Place the ribbon in position over the type, see paragraph 29, raise the platen lever, see paragraphs 33 and 34, and take an impression. For feeding see paragraph 39.

Making Corrections

44. After a proof has been taken, read the copy carefully and mark all errors in copy. Remove ribbon. From the marked corrected copy set up all corrections with the composing fork starting at the bottom of the form and working backwards to the top of the form. After all the corrections have been set up in the composition fork transfer the type, see paragraph 26, into an empty channel on the printing drum. Take the composition fork and slide all the characters to the left of and including the error in the first line into the composition fork. Now place the incorrect character in one of the empty channels of the drum and insert the corrected type in its place in the composition fork. Continue this method until the corrections are all made. Now slide all the incorrect type into the fork and place the distribution tip in position as shown in plate 3. For distribution, see paragraph 51.

Locking In Form

45. There are two methods which can be used for locking in the type form. First, by placing the little lock line clips at the end of each line. The second method is to fill out all the lines with quads so that all lines are as long as the longest line in the form. Then place a marginal band around the left end of the drum. For placing marginal band in position see paragraph 20.

Inserting Lock Line Clips

46. These small steel clips are made of spring steel so that they can be placed between two rails. In order to insert these clips between

the rails use the small tool with the curved handle, place the pointed end of this tool in the small opening at the top of the clip and then holding the tool in the palm of the hand force the clip between the rails with the thumb.

Setting Paper Strippers

47. The machine is equipped with paper strippers and they must be set so that when the drum is revolved one paper stripper is at each side of the form. Be very careful in setting these because if they interfere with the form your type will be smashed by coming in contact with them. These strippers are used to strip the paper from the form.

Assembling Paper Ejector in Machine

48. First assemble the front rod or support 40-360, plate 9, with the machine.

Take the large roll with the gear on it and first of all place the gear end over the bearing in the right end of the machine at the back. The number of this large roll is 40-351A. Then insert the screw bearing 40-64 and screw it in until the roller runs perfectly free with no end to end play. Then lock the screw bearing in position with the nut, 4-337. Place the two springs in position in the slots of the paper strippers and insert the rod 40-357 as shown on plate 9.

To increase the tension between the upper and lower ejector rollers, loosen the thumb screw 4-762 and turn the rod. When the proper tension has been obtained, lock the rod with the thumb screw.

Matching In

49. If the letter which you are running is to be filled in, read the rules for matching in very carefully before starting in on the job. TO RUN OFF THE JOB SEE PARAGRAPH 39 FEEDING PAPER.

Cleaning Type

50. Type should always be cleaned on the drum before it is distributed by patting with a cloth dampened with kerosene, gasoline or some other good cleaning agent. After the type has been dampened, scrub with a brush until clean.

Distribution

51. Place the prongs of the distribution fork in the channels of the drum and slide the first line of type into the fork. Place the small tip in position on the fork. Hold fork as shown in plate 3 with the small projection on the tip between the two rails which form the channel containing the characters to be distributed. Just push down on the fork until the type is raised from the fork and slides down into the channel. Continue this operation until the entire letter is distributed.
52. If the new style combination composition and distribution fork is used with the equipment it should be used as follows:

When composing, be sure that the slide ring at the distribution end of the fork is set so that it closes the channel in the work. This will prevent the type from dropping entirely through the fork.

In distribution be sure that the slide ring at the composition end of the fork is turned to

prevent the type from sliding through the fork and that the slide ring on the distribution end is open so that the type can be fed through from the drum into the fork. This should be in this position for distribution.

How To Match Multigraph Work With Typewriting

Ribbons

- 53.** Multigraph ribbons can be secured in the following colors: Black, Blue, Purple, Green, Brown and Red. We do not recommend the use of the Green, Brown and Red ribbons because they are freak colors but we will supply them if you so desire. Black, Blue and Purple ribbons are supplied in three depths of color.

The heavy ribbon will give greater quantity of work but some quality must be sacrificed. This is known as No. III.

The medium ribbon is the most generally used. This is known as the No. VI.

When using the light ribbon quantity is sacrificed for quality and you do not secure as many copies from the light ribbon as you do from the heavy and medium ribbons. This is known as the No. IX.

If a grayish black is desired a No. 10 Commercial Black should be used. This Commercial No. 10 is supplied only in black.

Typewriter ribbons can be supplied which will match any of the above ribbons.

Adjusting Upper and Lower Feed Rollers

- 54.** To increase or decrease the tension between the upper and lower feed rollers, loosen the lock nut 4-337, plate 8, and with a screw-driver turn the eccentric bolt 60-55A until the proper tension between rollers is secured. Reverse this operation to release the tension. Be sure that the lock nut 4-37 is securely fastened.

Paralleling Upper and Lower Feed Rollers

- 55.** If the tension between the upper feed roller and the lower feed roller is heavy at either side, this can be readily adjusted by loosening screw 19-325, plate 9, and adjusting the eccentric bearing 40-61A. The best method of testing this adjustment is to place two narrow strips of paper one at each side and in between the upper and lower feed rollers, turning the machine until the rollers are in contact with each other and then pulling lightly on the strips to see if the tension is even at both ends. If not, turn the eccentric, 40-61A, until an even tension is secured. Then lock with the locking screw. The flat portion of the eccentric bearing should always be toward the front of the machine.

Adjusting Paper Fingers

- 56.** Turn the machine as shown in plate 8. Turn the drum until the high portion of the cam band is in contact with the small roller, plate 7. Now loosen the small nut 4-553R, plate 8, and turn the screw 40-267R until the top edges of the paper fingers are almost in

contact with the upper feed roller. Then lock the nut.

Now turn the drum until the low portion of the cam band is in contact with the small roller on the elevating frame. In this position the fingers are in a lowered position.

Observe the fingers and note whether they are below the plate over which the paper passes.

If the fingers project above the plate the screw at the left should be adjusted until the top of the fingers are below the plate.

If these fingers are not adjusted properly trouble will be encountered when feeding the paper. If they are set too low the paper will pass over the top of the fingers and poor registration will be obtained. If they are set too high they will probably nick the paper as it passes through the machine.



Model No. 61

Assembling

Attach the gear, 22-14A, plate 9, to the right plate. Place composition roller, 22-5A, in place being sure that the pins in the gear are in the slots in the roller. Then insert the eccentric shaft. Now turn the drum so that the form which is set on the drum is opposite the roller, 22-5A. Place screw 19-283 in position. Loosen nut 4-337, plate 9, so that the shaft which goes through is free from the adjusting lever. Now with a screw-driver turn the shaft until the form roller 22-5A is just in contact with the type form on the drum. Hold the shaft in this position with the screw-driver and then turn the lever until the pointed end of the lever points toward the platen shaft and the end of the slot in this lever is in contact with the thumb screw. Holding the shaft firmly with the screw-driver lock the lever and shaft together firmly with hex. screw 4-337.

With the lever locked as above you can readily see that the roll can be thrown out of contact with the form at any time and brought back in exactly the same position by throwing the lever forward.

To remove the roller simply loosen the thumb screw which holds the lever, turn the lever half way or to the position so that the thumb screw is directly opposite the large opening in the lever. Then pull the shaft straight out.

Electrotypes

Electrotypes for use on the Multigraph are curved to fit the drum. They can be attached to the drum by marginal bands or lock line clips. Special electrotypes can be made up with lugs so that the lugs can be slid directly into the channel of the Multigraph. When using plates without lugs be sure that a line of quads or an electro stop is placed at the top of the plate to prevent it slipping.

Building Up Plates

If the impression from an electrotpe shows light spots due to unequal thickness of the plate, paste thin pieces of paper on the back of the plate directly underneath the light spots.

Stereotypes

Stereotypes can be furnished more cheaply and we believe you can obtain better service than the ordinary electrotyper can give. Let the International Composition Service Co. of Cleveland show you what they can give you in stereotype plates. Compare their prices with the electrotypes' prices and then decide for yourself.

Specifications For Electrotypes

.094" thick, from bottom to face of type; diameter of drum 5-13/16"; maximum width of printing surface 8"; width of marginal bands on each side of plate in direction curved 3/8"; maximum length of plate in direction curved 10". Ends of plate must be square with side. If your local electrotyper is not familiar with the process of making Multigraph plates we will send instructions or have plates made for you.

Printers Type

Ask our Division Office for the booklet "16 Popular Faces for the Multigraph" which illustrates the various faces of body and display type which we can furnish grooved to fit the machine.

Inking

Place the large roller 61-25AA in position over the small form roller. The grooves in the ends of the shaft in this large roller slide into the milled slots of the right and left plates. If you do not desire the upper roller to rest on the lower roll, simply turn the shaft so that the milled flat surface lies on the two small shoulders in the top of the slots in the plates.

When inking the rollers, be sure that the form roller which comes in contact with the type is away from the type.

See Page 21 for instructions on this roller. Be sure roller is in contact with type when printing.

To ink this attachment place small spots of ink in a straight line across the top of the large roller. Now simply revolve your machine until the ink is evenly distributed over both form rollers and the type. As the copy runs light simply repeat this operation.